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L3: Entry 1 of 4

File: USPT

Aug 19, 1997

US-PAT-NO: 5658728

DOCUMENT-IDENTIFIER: US 5658728 A

TITLE: Templates for nucleic acid molecules

DATE-ISSUED: August 19, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gosney, Jr.; William Milton	Lucas	TX	75002	N/A

US-CL-CURRENT: 435/6; 435/287.2

## ABSTRACT:

Templates for the binding and synthesis of biological molecules are disclosed. The templates according to the invention consist of an atomically flat substrate and a three-dimensional pattern formed on the substrate by the positioning of individual atoms or molecules or groups of atoms or molecules to form hillocks. The hillocks are capable of binding to complementary portions of biological molecules or their component molecules.

7 Claims, 24 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 13

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 2. Document ID: US 5412563 A

L3: Entry 2 of 4

File: USPT

May 2, 1995

US-PAT-NO: 5412563  
DOCUMENT-IDENTIFIER: US 5412563 A

TITLE: Gradient image segmentation method

DATE-ISSUED: May 2, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cline; Harvey E.	Schenectady	NY	N/A	N/A
Lorensen; William E.	Ballston Lake	NY	N/A	N/A

US-CL-CURRENT: 345/420; 345/429

ABSTRACT:

In order to display the surfaces of internal structures within a solid body from non-intrusively acquired data sets, it is useful to segment the data sets into the internal structures of interest before searching for the surfaces of such structures. To accomplish this, a data segmentation system uses a plurality of sample data points to construct a statistical probability distribution for a plurality of internal structures. Using these probability distributions, each data point is labeled with the most likely structure identification. Searching the thus-segmented data points for surfaces is considerably faster than is possible with the entire data set and produces surface renditions with fewer anomalies and errors. A non-intrusive imaging means is used to obtain a 3D data set. The probability distribution is bivariate and the two data sets are plotted against each other to assist in identifying tissue types.

14 Claims, 5 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 4

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. Desc	Image
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☐ 3. Document ID: US 5218039 A

L3: Entry 3 of 4

File: USPT

Jun 8, 1993

US-PAT-NO: 5218039  
DOCUMENT-IDENTIFIER: US 5218039 A

TITLE: Pan emulsion

DATE-ISSUED: June 8, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Stoy; Vladimir	Princeton	NJ	N/A	N/A
Lovy; Jan	Princeton	NJ	N/A	N/A

US-CL-CURRENT: 524/566; 524/317, 524/379, 524/388, 524/565, 524/827

ABSTRACT:

Stable emulsions and dispersions of both the water-in-oil and oil-in-water types are prepared by subjecting mixtures of the two phases to shear stress in the presence of nitrile group-containing copolymers capable of forming hydrogels containing at least 90% by weight of water at room temperature.

12 Claims, 1 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 4. Document ID: US 4515728 A

L3: Entry 4 of 4

File: USPT

May 7, 1985

US-PAT-NO: 4515728  
DOCUMENT-IDENTIFIER: US 4515728 A

TITLE: Synthesis of heteronuclear osmium carbonyl hydrides under gaseous hydrogen

DATE-ISSUED: May 7, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shore; Sheldon G.	Columbus	OH	N/A	N/A
Hsu; Wen-Liang	Copley	OH	N/A	N/A

US-CL-CURRENT: 556/31; 556/29

ABSTRACT:

A process for producing a osmium heteronuclear metal carbonyl compound comprises establishing a reaction mixture comprising an electron deficient cobalt, nickel, iron, molybdenum or rhodium carbonyl, H.sub.2 Os.sub.3 (CO).sub.10 and a solvent in the presence of gaseous hydrogen and recovering the osmium heteronuclear metal carbonyl compound from the reaction mixture. Some of the cobalt, molybdenum and rhodium carbonyls produced are new. If the reaction with Rh(.eta..sup.5 --C.sub.5 H.sub.5)(CO).sub.2 is conducted in benzene or toluene as solvent, the cyclopentadienyl liquid is replaced by a benzene or toluene ligand, thereby producing novel benzene- and toluene-substituted rhodium/osmium heteronuclear carbonyl hydrides.

27 Claims, 0 Drawing figures Exemplary Claim Number: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Image
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L4: Entry 1 of 13

File: USPT

Feb 15, 2000

US-PAT-NO: 6025202

DOCUMENT-IDENTIFIER: US 6025202 A

TITLE: Self-assembled metal colloid monolayers and detection methods therewith

DATE-ISSUED: February 15, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Natan; Michael J.	State College	PA	N/A	N/A

US-CL-CURRENT: 436/104; 356/301, 356/318, 422/89, 436/103, 436/105, 436/161,  
436/171, 436/501, 436/86

## ABSTRACT:

A biosensor based on complexes between biomolecule receptors and colloidal Au nanoparticles, and more specifically, colloid layers of receptor/Au complexes that can be used to detect biomolecule analytes through measuring of binding-induced changes in electrical resistance or surface plasmon resonance. Also disclosed is a method for detecting and analysing carrier-borne chemical compounds with Raman spectroscopy using an improved SERS substrate. Further disclosed is an improved method for detecting compounds in solvents using capillary electrophoresis in conjunction with Raman spectroscopy.

32 Claims, 51 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 40

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 6011379 A

L4: Entry 2 of 13

File: USPT

Jan 4, 2000

US-PAT-NO: 6011379

DOCUMENT-IDENTIFIER: US 6011379 A

TITLE: Method for determining state-of-charge using an intelligent system

DATE-ISSUED: January 4, 2000

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Singh; Pritpal	Media	PA	N/A	N/A
Fennie, Jr.; Craig	New Haven	CT	N/A	N/A

US-CL-CURRENT: 320/132; 320/DIG.21

## ABSTRACT:

A method for determining state of charge (SOC) of an electrochemical device using fuzzy logic (i.e., an intelligent system) is presented. State of charge of an electrochemical device is determined by an internal characteristic or parameter (or external operating and environmental conditions) with an intelligent system. The electrochemical device comprises such devices as primary ("throwaway") batteries, rechargeable batteries, fuel cells, a hybrid battery containing a fuel cell electrode and electrochemical supercapacitors. The intelligent system is trained in the relationship between the characteristic of the electrochemical device and the SOC of the electrochemical device.

39 Claims, 23 Drawing figures Exemplary Claim Number: 36,38

Number of Drawing Sheets: 15

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Draw Desc	Image
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☐ 3. Document ID: US 5918257 A

L4: Entry 3 of 13

File: USPT

Jun 29, 1999

US-PAT-NO: 5918257  
DOCUMENT-IDENTIFIER: US 5918257 A

TITLE: Methods and devices for the detection of odorous substances and applications

DATE-ISSUED: June 29, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mifsud; Jean Christophe	Saint-Jean	N/A	N/A	FRX
Moy; Laurent	Toulouse	N/A	N/A	FRX

US-CL-CURRENT: 73/23.34; 73/31.05, 73/31.06

ABSTRACT:

Device for carrying out a method of odor detection comprising, in particular, a plurality of chambers, each including a plurality of semiconductor gas sensors, conductive polymer gas sensors, and surface acoustic wave gas sensors, as detection devices, a variable flow gas pump for forming a gas flow in said chambers, measurement electronic device for operating the detection devices, a data processing unit for recording in a file the olfactory prints obtained using the detection means, and for comparing the detected impressions with those in the file so that odors may be identified and recognized. Applications exist, especially to drugs, explosives, body odors and food seals.

14 Claims, 17 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 4. Document ID: US 5905568 A

L4: Entry 4 of 13

File: USPT

May 18, 1999



US-PAT-NO: 5905568  
DOCUMENT-IDENTIFIER: US 5905568 A

TITLE: Stereo imaging velocimetry

DATE-ISSUED: May 18, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McDowell; Mark	Cleveland	OH	N/A	N/A
Glasgow; Thomas K.	Rocky River	OH	N/A	N/A

US-CL-CURRENT: 356/28; 348/135, 356/337

ABSTRACT:

A system and a method for measuring three-dimensional velocities at a plurality of points in a fluid employing at least two cameras positioned approximately perpendicular to one another. The cameras are calibrated to accurately represent image coordinates in world coordinate system. The two-dimensional views of the cameras are recorded for image processing and centroid coordinate determination. Any overlapping particle clusters are decomposed into constituent centroids. The tracer particles are tracked on a two-dimensional basis and then stereo matched to obtain three-dimensional locations of the particles as a function of time so that velocities can be measured therefrom. The stereo imaging velocimetry technique of the present invention provides a full-field, quantitative, three-dimensional map of any optically transparent fluid which is seeded with tracer particles.

20 Claims, 9 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. Desc	Image
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☐ 5. Document ID: US 5828776 A

L4: Entry 5 of 13

File: USPT

Oct 27, 1998

US-PAT-NO: 5828776

DOCUMENT-IDENTIFIER: US 5828776 A

TITLE: Apparatus for identification and integration of multiple cell patterns

DATE-ISSUED: October 27, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; Shih-Jong J.	Bellevue	WA	N/A	N/A
Kuan; Chih-Chau L.	Redmond	WA	N/A	N/A
Bannister; Wendy R.	Seattle	WA	N/A	N/A
Wilhelm; Paul S.	Kirkland	WA	N/A	N/A
Meyer; Michael G.	Seattle	WA	N/A	N/A

US-CL-CURRENT: 382/133; 382/128, 382/224

## ABSTRACT:

A biological specimen classification strategy employs identification and integration of multiple cell patterns. An automated microscope acquires an image of a biological specimen such as a Pap smear and provides an image output to biological classifiers. The classifiers independently detect and classify a number of specimen types and provide classifications to an output field of view integrator. The integrator integrates the classifications. The integrated output then determines whether the classifiers should be reapplied to the image.

43 Claims, 48 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 37

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
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☐ 6. Document ID: US 5801297 A

L4: Entry 6 of 13

File: USPT

Sep 1, 1998

US-PAT-NO: 5801297

DOCUMENT-IDENTIFIER: US 5801297 A

TITLE: Methods and devices for the detection of odorous substances and applications

DATE-ISSUED: September 1, 1998

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mifsud; Jean Christophe	Saint-Jean	N/A	N/A	FRX
Moy; Laurent	Toulouse	N/A	N/A	FRX

US-CL-CURRENT: 73/23.34; 73/31.05

## ABSTRACT:

Device for carrying out a method of odor detection comprising, in particular, a plurality of chambers (1, 2, 2a, 3), each including a plurality of semi-conductor gas sensors (6), conductive polymer gas sensors (7), surface acoustic wave gas sensors (8), as detection means, a variable flow gas pump (10) for forming a gas flow in said chambers (1, 2, 2a, 3), measurement electronic device (16) for operating the detection means (6, 7, 8), a data processing unit (15) for recording in a file the olfactory prints obtained using the detection means, and for comparing the detected impressions with those in the file so that odors may be identified and recognized. Applications, especially to drugs, explosives, body odours and food seals.

20 Claims, 17 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 7. Document ID: US 5761387 A

L4: Entry 7 of 13

File: USPT

Jun 2, 1998

US-PAT-NO: 5761387  
DOCUMENT-IDENTIFIER: US 5761387 A

TITLE: System controller

DATE-ISSUED: June 2, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yamada; Kunio	Ebina	N/A	N/A	JPX

US-CL-CURRENT: 706/45; 700/28, 706/61, 706/903

ABSTRACT:

A system controller which significantly reduces the number of development processes and automatically exercises control corresponding to situations. The system controller is made up of a manipulation value output circuit for supplying a manipulation value to a system to be controlled, a control example memory for storing the manipulation value and a controlled variable which is output from the system in response to the manipulation value, a control rule extraction circuit for extracting a control rule from among a plurality of control examples stored in the control example memory, and a manipulation value computing circuit for calculating a manipulation value which matches the controlled variable with a target figure using the control rule extracted by the control rule extraction circuit, and causing the manipulation value output circuit to output the thus obtained manipulation value.

13 Claims, 8 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 8

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw Desc	Image
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☐ 8. Document ID: US 5757001 A

L4: Entry 8 of 13

File: USPT

May 26, 1998

US-PAT-NO: 5757001  
DOCUMENT-IDENTIFIER: US 5757001 A

TITLE: Detection of counterfeit currency

DATE-ISSUED: May 26, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Burns; Donald A.	Los Alamos	NM	N/A	N/A

US-CL-CURRENT: 250/339.11; 250/339.09, 250/341.8

ABSTRACT:

A method of detecting counterfeit currency by contacting the currency to be tested with near infrared beams in the spectrum below 1250 nanometers, measuring reflectance of the near infrared beams and comparing the reflectance values with those from genuine currency.

2 Claims, 18 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 18

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 9. Document ID: US 5594503 A

L4: Entry 9 of 13

File: USPT

Jan 14, 1997

US-PAT-NO: 5594503

DOCUMENT-IDENTIFIER: US 5594503 A

TITLE: Image information compressing method, compressed image information recording medium and compressed image information reproducing apparatus

DATE-ISSUED: January 14, 1997

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Miyazawa; Takeo	Tokyo	N/A	N/A	JPX

US-CL-CURRENT: 348/414; 348/417, 348/418, 348/422

## ABSTRACT:

An image information compressing method for densely compressing image information, in particular, dynamic image information, a compressed image information recording medium for recording compressed image information, and a compressed image information reproducing apparatus capable of reproducing compressed image information at high speed in a short time are provided. Each image frame constituting a dynamic image information is divided into key frames and movement compensation frames. The key frame is divided into blocks so that an image pattern of each block is vector-quantized by using a algorithm of the Kohonen's self-organizing featured mapping. The movement compensation frame is processed such that a movement vector for each block is determined and a movement vector pattern constituting a large block is vector-quantized by using the algorithm of the Kohonen's self-organizing featured mapping. The compressed image information recording medium includes an index recording region for recording the representative vector number of each block and large blocks and a representative vector recording region for recording information corresponding to a code book. The compressed image information reproducing apparatus includes a data reading unit, a key frame restoring unit and a movement compensation frame restoring unit.

6 Claims, 21 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 16

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Draw Desc	Image
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☐ 10. Document ID: US 5469369 A

L4: Entry 10 of 13

File: USPT

Nov 21, 1995

US-PAT-NO: 5469369  
DOCUMENT-IDENTIFIER: US 5469369 A

TITLE: Smart sensor system and method using a surface acoustic wave vapor sensor array and pattern recognition for selective trace organic vapor detection

DATE-ISSUED: November 21, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rose-Pehrsson; Susan L.	Alexandria	VA	N/A	N/A
Di Lella; Daniel	Lorton	VA	N/A	N/A
Grate; Jay W.	West Richland	WA	N/A	N/A

US-CL-CURRENT: 702/27; 340/632, 73/23.2

ABSTRACT:

A method and a system using that method are provided which employ a pattern recognition algorithm to improve sensitivity in detecting hazardous vapors. The algorithm enables the discrimination of vapors of interest from non-hazardous substances at higher concentrations in varying relative humidity. A weight vector is generated corresponding to a N-space representation of a class comprising known vapors of interest, and a N-space representation of the unknown vapor is used to generate an unknown pattern vector. By calculating the dot product of the unknown pattern vector and the weight vector a determination can be made as to whether the unknown vapor is within the class. The weight vector is generated by selecting a training set comprising a subset of the known vapors of interest and background vapors and generating an N-space representation of the training set so as to create an associated weight vector.

12 Claims, 9 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 3

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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11 and (neural network)	13

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L4: Entry 11 of 13

File: USPT

Nov 7, 1995

US-PAT-NO: 5465320

DOCUMENT-IDENTIFIER: US 5465320 A

TITLE: Method of automated learning, an apparatus therefor, and a system incorporating such an apparatus

DATE-ISSUED: November 7, 1995

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Enbutsu; Ichiro	Hitachi	N/A	N/A	JPX
Baba; Kenzi	Hitachi	N/A	N/A	JPX
Hara; Naoki	Hitachi	N/A	N/A	JPX
Yoda; Mikio	Tokai	N/A	N/A	JPX
Watanabe; Shoji	Hitachi	N/A	N/A	JPX
Yahagi; Hayao	Hitachi	N/A	N/A	JPX

US-CL-CURRENT: 706/23; 706/52, 706/61, 706/900

## ABSTRACT:

In order to speed up and simplify automated learning of rules by a neural network making use of fuzzy logic, data from a system is analyzed by a teaching data creation means which groups the data into clusters and then selects a representative data item from each group for subsequent analysis. The selected data items are passed to a rule extraction means which investigates relationships between the data items, to derive rules, but eliminates rules which have only an insignificant effect on the system. The results are candidate rules which are stored in a first rule base. The candidate rules are then compared with rules in a second rule base to check for duplication and/or contradiction. Only those rules which are not duplicated and not contradictory are stored in the second rule base. Hence, when fuzzy inference is used to control the system on the basis of rules in the second rule base, only valid rules which provide a significant effect on the system are used.

1 Claims, 7 Drawing figures Exemplary Claim Number: 1  
Number of Drawing Sheets: 7

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 12. Document ID: US 5285793 A

L4: Entry 12 of 13

File: USPT

Feb 15, 1994

US-PAT-NO: 5285793

DOCUMENT-IDENTIFIER: US 5285793 A

TITLE: Noninvasive detection of rejection in heart transplant patients

DATE-ISSUED: February 15, 1994

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Slovut; David P.	Golden Valley	MN	N/A	N/A
Bolman, III; R. M.	Minneapolis	MN	N/A	N/A
Bianco; Richard W.	Minneapolis	MN	N/A	N/A
Wenstrom; John C.	Salida	CO	N/A	N/A

US-CL-CURRENT: 600/519; 128/925

## ABSTRACT:

A method and apparatus for diagnosing heart rejection is disclosed. Heart rejection is diagnosed based on the pattern of interbeat intervals. The interbeat intervals of the heart are measured shortly after transplant to establish a baseline pattern. The patterns of interbeat intervals from subsequent measurements are compared to the baseline to detect changes from the baseline indicating rejection. The apparatus of the invention measures the interbeat intervals using a Schmidt trigger that detects the upstroke of the QRS and produces a corresponding pulse. The intervals between pulses are timed to produce a series of interbeat interval measurements that are stored and analyzed. Software provides for automated pattern analysis.

18 Claims, 50 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 34

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Draw Desc	Image
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☐ 13. Document ID: US 5263120 A

L4: Entry 13 of 13

File: USPT

Nov 16, 1993



US-PAT-NO: 5263120

DOCUMENT-IDENTIFIER: US 5263120 A

TITLE: Adaptive fast fuzzy clustering system

DATE-ISSUED: November 16, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bickel; Michael A.	Dickinson	TX	77539	N/A

US-CL-CURRENT: 706/62; 704/200, 706/10, 706/900

## ABSTRACT:

A parallel processing computer system for clustering data points in continuous feature space by adaptively separating classes of patterns. The preferred embodiment for this massively parallel system includes preferably one computer processor per feature and requires a single a priori assumption of central tendency in the distributions defining the pattern classes. It advantageously exploits the presence of noise inherent in the data gathering to not only classify data points into clusters, but also measure the certainty of the classification for each data point, thereby identifying outliers and spurious data points. The system taught by the present invention is based upon the gaps between successive data values within single features. This single feature discrimination aspect is achieved by applying a minimax comparison involving gap lengths and locations of the largest and smallest gaps. Clustering may be performed in near-real-time on huge data spaces having unlimited numbers of features.

14 Claims, 45 Drawing figures Exemplary Claim Number: 1

Number of Drawing Sheets: 38

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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